

IN THE CLAIMS:

- SURBIS* 1. (Currently Amended) A method for transmitting a signal of a medium access control sublayer in a mobile communication system which has mobile and base stations for providing a bearer service, comprising the steps of:
- a) deciding a bearer service profile type according to a bearer service combination type of said bearer service to provide said bearer service; and
 - b) selecting a transport format indicator within a transport format combination set according to the decided bearer service profile type;
- transmitting a transport format indicator to indicate the selected transport format; and
- transmitting appending a transport format combination indicator to a dedicated physical control channel according to the transport format combination set.
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2. (Currently Amended) The method as set forth in Claim 1, wherein said bearer service profile type includes a service type and a radio environment information.
3. (Original) The method as set forth in Claim 2, wherein said service type includes said bearer service combination type and a bearer service class type.
4. (Original) The method as set forth in Claim 3, wherein said bearer service combination type includes a bearer service category defined by a combination of speech,

circuit data and packet data services, said bearer service category including any one of only said speech service, only said circuit data service, only said packet data service, a combination of simultaneous speech and packet data services, a combination of simultaneous speech and circuit data services, a combination of simultaneous packet data and circuit data services and a combination of simultaneous speech, packet data and circuit data services.

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5. (Original) The method as set forth in Claim 3, wherein said bearer service class type includes any one of first to fourth classes, said first class having connection oriented and delay constrained characteristics for low delay data, said second class having variable bit rate, connection oriented and delay constrained characteristics for low delay data at a variable bit rate, said third class having connection oriented and delay constrained characteristics for long constrained delay data, said forth class having connectless and delay unconstrained characteristics for unconstrained delay data.

6. (Currently Amended) The method as set forth in Claim 2, wherein:
said radio environment information includes any one of an indoor environment model, an outdoor to indoor and pedestrian environment model and a vehicular environment model; and

said radio environment information is based on at least one of which are classified according to periodic, on-demand and threshold information.

7. (Currently Amended) The method as set forth in Claim 1, wherein ~~said step b)~~ selecting said transport format includes the step of setting attributes of a dynamic part and semi-static part of transport formats according to said transport format indicator.

8. (Currently Amended) The method as set forth in Claim 7, wherein said attributes of said dynamic part include at least one of a transport block size and a transport block setup size.
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9. (Currently Amended) The method as set forth in Claim 7, wherein said attributes of said semi-static part include at least one of a transport time interval, a type of channel coding, outer coding, such as Reed-Solomon coding; outer interleaving, inner coding, inner interleaving and rate matching.

10. (Currently Amended) A method for transmitting a signal of a medium access control sublayer in a mobile communication system which has mobile and base stations for providing a bearer service, comprising the steps of:

a) allowing an application layer to decide deciding a bearer service combination type of said a bearer service for a mobile station and a base station;

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- b) allowing a radio resource control layer to measure measuring a radio environment between said mobile station and said base stations;
 - c) allowing said radio resource control layer to decide deciding a bearer service profile type according to the decided said bearer service combination type and the measured said radio environment; result and then assign assigning a transport format combination set according to said bearer service profile type;
 - d) allowing said medium access control sublayer to select selecting appropriate a transport formats within the assigned transport format combination set; transmitting a transport format indicator to indicate said selected transport format; and
 - e) allowing a specific layer to set configuring said transport format including attributes of a dynamic part and semi-static part according to said transport format indicator; and of the selected transport formats and append transmitting a transport format combination indicator to a dedicated physical control channel.

11. (Currently Amended) The method as set forth in Claim 10, wherein:
said step b) measuring the radio environment includes the step of determining whether said radio environment includes any one of an indoor environment model, an

outdoor to indoor and pedestrian environment model and a vehicular environment model;
and

said radio environment information is based on at least one of which are classified according to periodic, on-demand and threshold information.

12. (Currently Amended) The method as set forth in Claim 10, wherein said attributes of said dynamic part include a transport block size and a transport block setup size.

13. (Currently Amended) The method as set forth in Claim 10, wherein said attributes of said semi-static part include at least one of a transport time interval, a type of channel coding, outer coding, such as Reed-Solomon coding; outer interleaving, inner coding, inner interleaving and rate matching.

14. (New) A method comprising configuring a format for communication between a first communication layer and a second communication layer, wherein the format comprises attributes of a dynamic part and a semi-static part.

15. (New) The method of claim 14, wherein the configuring the format for communication between the first communication layer and the second communication layer comprises a L1 configuration control performed by configuring attributes of the dynamic

part and the semi-static part of selected transport formats according to a transport format combination set assigned by a RRC layer and a transport format indicator transferred by a MAC sublayer.

16. (New) The method of claim 14, wherein the communication between the first communication layer and the second communication layer is from the first communication layer to the second communication layer.

17. (New) The method of claim 14, wherein the communication between the first communication layer and the second communication layer is from the second communication layer to the first communication layer.

18. (New) The method of claim 14, wherein the format is for the delivery of a transport block set during a transmission time interval on a transport channel.

19. (New) The method of claim 14, wherein the first communication layer is L1 layer.

20. (New) The method of claim 14, wherein the second communication layer is a MAC layer.

21. (New) The method of claim 14, wherein the attributes of the dynamic part comprise transport block size.

22. (New) The method of claim 14, wherein the attributes of the dynamic part comprise transport block set size.

23. (New) The method of claim 14, wherein the attributes of the semi-static part comprise transmission time interval.

24. (New) The method of claim 14, wherein the attributes of the semi-static part comprise type of channel coding.

25. (New) The method of claim 14, wherein the attributes of the semi-static part comprise outer coding.

26. (New) The method of claim 25, wherein the outer coding is Reed-Solomon coding.

27. (New) The method of claim 14, wherein the attributes of the semi-static part comprise outer interleaving.

28. (New) The method of claim 14, wherein the attributes of the semi-static part comprise inner coding.

29. (New) The method of claim 14, wherein the attributes of the semi-static part comprise inner interleaving.

30. (New) The method of claim 14, wherein the attributes of the semi-static part comprise rate matching.

31. (New) The method of claim 14, wherein the format for communication between the first device and the second device is a transport format.

32. (New) The method of claim 31, wherein the transport format is comprised in a transport format set.

33. (New) The method of claim 14, wherein the attributes of the dynamic part and the semi-static part are determined according to at least one of service type and a measured radio quality environment.

34. (New) A method comprising:

determining at least one type of wireless service;
determining a radio environment measurement; and
determining a transport format combination set according to said at least one type of wireless service and said radio environment measurement.

35. (New) The method of claim 34, wherein said determining at least one type of wireless service is implemented in an application layer.

36. (New) The method of claim 34, wherein said determining a radio environment measurement is implemented in a radio resource control layer.

37. (New) The method of claim 34, wherein said determining the transport format combination set is implemented in a radio resource control layer.

38. (New) The method of claim 34, wherein said determining at least one type of wireless service is deciding a bearer service combination type.

39. (New) The method of claim 34, wherein said at least one type of wireless service comprises speech service.

40. (New) The method of claim 34, wherein said at least one type of wireless service comprises circuit data service.

41. (New) The method of claim 34, wherein said at least one type of wireless service comprises packet data service.

42. (New) The method of claim 34, wherein said at least one type of wireless service comprises a combination of simultaneous speech service and packet data service.

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43. (New) The method of claim 34, wherein said at least one type of wireless service comprises a combination of simultaneous packet data service and circuit data service.

44. (New) The method of claim 34, wherein said at least one type of wireless service comprises a combination of speech service and circuit data service.

45. (New) The method of claim 34, wherein said at least one type of wireless service comprises a combination of simultaneous speech service, packet data service, and circuit data service.

46. (New) The method of claim 34, wherein said determining the radio environment measurement comprises determining one of:
- an indoor environment model;
 - a pedestrian environment model; and
 - a vehicular environment model.
47. (New) The method of claim 34, wherein said determining the transport format combination set includes deciding a radio bearer service profile type.
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48. (New) The method of claim 34, wherein said determining the transport format combination set is implemented in a radio resource layer.
49. (New) The method of claim 48, comprising transferring the transport format combination set to a medium access control layer.
50. (New) The method of claim 48, comprising transferring the transport format combination set to a physical layer.
51. (New) The method of claim 34, comprising selecting at least one transport format within the transport format combination set.

52. (New) The method of claim 51, wherein said at least one transport format is within a transport format set.

53. (New) The method of claim 51, wherein said selecting at least one transport format is implemented in a medium access control layer.

54. (New) The method of claim 34, comprising transferring a transport format indicator to a physical layer.

55. (New) The method of claim 54, wherein the physical layer transmits a transport format combination indicator to a dedicated physical control channel based on the transport format indicator.

56. (New) The method of claim 55, wherein the dedicated physical control channel is a channel between two wireless devices.

57. (New) The method of claim 56, wherein the two wireless devices comprise at least one of a mobile station and a base station.

58. (New) An apparatus configured to implement the method of claim 34.

59. (New) The apparatus of claim 58, wherein the apparatus is a base station.

60. (New) The apparatus of claim 58, wherein the apparatus is a mobile station.

61. (New) A method for providing radio bearer service in a mobile communication system, comprising:
receiving a bearer service type from an upper layer;
receiving radio environment information from a mobile station; and
determining and transmitting a transport format combination set based on the bearer service type and the radio environment information.

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62. (New) A method for transmitting a transport format combination indicator to communicate with a receiver in a mobile communication system, comprising:
receiving a bearer service type from an upper layer;
determining and transmitting a transport format combination set based on the bearer service type;
configuring a transport format combination indicator including at least one attribute of a dynamic part and a semi-static part based on the transport format combination set and

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the transport format indicator; and

transmitting the transport format combination indicator on a dedicated physical
control channel.
